What is claimed is:

1. A signal compression method for compressing an original signal which has been provided in advance to convert the original signal into a compressed signal, comprising:

an initial sub-signal creation step of creating, from the original signal, sub-signals of shorter length than the original signal;

a created sub-signal selection step of, for each of the sub-signals which have been produced by the initial sub-signal creation step, pruning the created sub-signal candidates to those for which the amount of data is less than for the original signal;

a sub-signal re-creation step of determining upon a created sub-signal which is actually to be used, using the created sub-signal candidates which have been produced by the created sub-signal selection step;

a compression mapping determination step of determining, from the respective sub-signals which have been produced by the sub-signal re-creation step, a mapping for calculation of a compressed signal; and

a signal compression step of calculating a compressed signal which corresponds to each of the sub-signals which have been obtained by the sub-signal re-creation step, based upon the mapping which has been obtained by the compression mapping determination step.

2. A signal compression method as described in Claim 1, wherein the signal compression step comprises:

a signal mapping step of mapping each of the sub-signals which have been obtained by the sub-signal re-creation step by the mapping which has been obtained by the compression mapping determination step;

a projection distance calculation step of calculating, for the sub-signal after the mapping which has been obtained by the signal mapping step, the distance from the sub-signal which has been obtained by the sub-signal re-creation step; and

a compressed feature creation step of creating a compressed signal, based upon the respective sub-signals after mapping which have been produced by the signal mapping step and the projection distance which has been produced by the projection distance calculation step.

3. A signal compression method as described in Claim 1, wherein the initial sub-signal creation step segments the original signal from the top of the original signal, and takes the sub-signal after the segmentation as its resulting sub-signal.

4. A signal compression method as described in Claim 3, wherein the created sub-signal selection step and the sub-signal re-creation step determine segmentation boundaries in order from the top of the original signal.

5. A signal compression method as described in Claim 3, wherein the created sub-signal selection step and the sub-signal re-creation step set a segmentation boundary shiftable width which is determined in advance, and, taking the segmentation boundary which has been obtained by the initial sub-signal creation step as a reference, determine segmentation boundaries which are to be actually utilized within a segmentation boundary shiftable range having the segmentation boundary shiftable width on both sides of the center thereof.

6. A signal compression method as described in Claim 3, wherein the created

sub-signal selection step shifts the segmentation boundaries to some locations and calculates compression ratios, and, based upon the results thereof, selects a range in which the segmentation boundaries which are to be actually utilized can exist.

7. A signal compression method as described in Claim 6, wherein the created sub-signal selection step automatically determines the number of times for calculation of compression ratio in the created sub-signal selection step, so as to reduce the number of times of calculation of compression ratio in the created sub-signal selection step and the sub-signal re-creation step.

8. A signal compression method as described in Claim 1, wherein the initial sub-signal creation step extracts features from the original signal, and uses the extracted features, represented as a sequence of multi-dimensional vectors, as a new original signal.

9. A signal retrieval method for, at any location within a stored signal, which is an original signal which is registered in advance, calculating the distance from a reference signal, which is a signal which is taken as an object, and finding a location from the stored signal which is similar to the reference signal, comprising:

the steps which are comprised in the signal compression method as described in Claim 1;

a reference feature extraction step in which a feature is produced from the reference signal;

a stored feature extraction step in which a window upon which attention is focused is set within the stored signal, and in which a feature is produced from the stored signal within the window upon which attention is focused;

a reference feature compression step in which a reference feature which has been produced by the reference feature extraction step is compressed, based upon the mapping which has been produced by the compression mapping determination step;

a feature matching step in which the distance is calculated between a reference compressed signal which has been produced by the reference feature compression step and a stored compressed signal which has been produced from the signal compression step by newly using the feature sequence which has been produced by repeatedly performing the processing of the stored feature extraction step while shifting the window upon which attention is focused; and

a signal detection decision step in which, by comparing together the distance which has been produced by the feature matching step and a search threshold, which is a threshold which corresponds to the distance, it is decided whether or not the reference signal is present at the location within the stored signal,

wherein the processing of the feature matching step and the processing of the signal detection decision step are repeated while shifting the window upon which attention is focused.

10. A signal retrieval method as described in Claim 9, further comprising:

a distance re-calculation step in which, for the location in the database signal at which it has been decided by the signal detection decision step that the query signal is present, the distance between the feature sequence which has been produced by the reference feature extraction step and the feature sequence which has been produced by the stored feature extraction step is calculated; and

a signal detection re-decision step in which, by comparing together the distance which has been produced by the distance re-calculation step and the search threshold, it

is re-decided whether or not the query signal is present at the location of the database signal,

wherein the processing of the feature matching step, the signal detection decision step, the distance re-calculation step, and the signal detection re-decision step is repeated while shifting the window upon which attention is focused; for some locations within the database signal, the distance from the query signal is calculated; and it is determined whether or not the query signal is present at the locations within the database signal.

11. A signal retrieval method as described in Claim 9, further comprising a skip width calculation step in which, based upon the distance which has been calculated by the feature matching step, a skip width for the window upon which attention is focused is calculated, and the window upon which attention is focused is shifted by the skip width,

wherein the processing of the feature matching step, the signal detection decision step, and the skip width calculation step is repeated while shifting the window upon which attention is focused; for some locations within the database signal, the distance from the query signal is calculated; and it is determined whether or not the query signal is present at the locations within the database signal.

12. A signal compression device which compresses an original signal which is provided in advance to convert the original signal into a compressed signal, comprising:

an initial sub-signal creation section which creates, from the original signal, sub-signals of shorter length than the original signal;

a created sub-signal selection section which, for each of the sub-signals which has been produced by the initial sub-signal creation section, prunes the created sub-signal

candidates to those for which the amount of data is less than for the original signal;

a sub-signal re-creation section which, using the created sub-signal candidates which have been produced by the created sub-signal selection section, determines upon a created sub-signal which is actually to be used;

a compression mapping determination section which determines upon a mapping for calculation of a compressed signal from the respective sub-signals which has been obtained by the sub-signal re-creation section; and

a signal compression section which calculates a compressed signal which corresponds to each of the sub-signals which have been obtained by the sub-signal re-creation section, based upon the mapping which has been obtained by the compression mapping determination section.

13. A signal retrieval device for, at any location within a stored signal, which is an original signal which is registered in advance, calculating the distance from a reference signal, which is a signal which is taken as an object, and finding a location from the stored signal which is similar to the reference signal, comprising:

the sections which are comprised in the signal compression device as described in Claim 12;

a reference feature extraction section which produces a feature from the reference signal;

a stored feature extraction section which sets a window upon which attention is focused within the stored signal, and which produces a feature from the stored signal within the window upon which attention is focused;

a reference feature compression section which compresses a reference feature which has been produced by the reference feature extraction section, based upon the

mapping which has been produced by the compression mapping determination section;

a feature matching section which calculates the distance between a reference compressed signal which has been produced by the reference feature compression section and a stored compressed signal which has been produced from the signal compression section by newly using the feature sequence which has been produced by repeatedly performing the processing by the stored feature extraction section while shifting the window upon which attention is focused; and

a signal detection decision section which, by comparing together the distance which has been produced by the feature matching section and a search threshold, which is a threshold which corresponds to the distance, decides whether or not the reference signal is present at the location within the stored signal,

wherein the operation of the feature matching section and the operation of the signal detection decision section are repeated while shifting the window upon which attention is focused.

14. A signal retrieval device as described in Claim 13, further comprising:

a distance re-calculation section which, for the location in the database signal at which it has been decided by the signal detection decision section that the query signal is present, calculates the distance between the feature sequence which has been produced by the reference feature extraction section and the feature sequence which has been produced by the stored feature extraction section; and

a signal detection re-decision section which, by comparing together the distance which has been produced by the distance re-calculation section and the search threshold, re-decides whether or not the query signal is present at the location of the database signal,

wherein the processing of the feature matching section, the signal detection decision section, the distance re-calculation section, and the signal detection re-decision section is repeated while shifting the window upon which attention is focused; for some locations within the database signal, the distance from the query signal is calculated; and it is determined whether or not the query signal is present at the locations within the database signal.

15. A signal retrieval device as described in Claim 13, further comprising a skip width calculation section which, based upon the distance which has been calculated by the feature matching section, calculates a skip width for the window upon which attention is focused, and shifts the window upon which attention is focused by the skip width, and

wherein the processing of the feature matching section, the signal detection decision section, and the skip width calculation section is repeated while shifting the window upon which attention is focused; for some locations within the database signal, the distance from the query signal is calculated; and it is determined whether or not the query signal is present at the locations within the database signal.

16. A signal compression program which compresses an original signal which has been provided in advance to convert the original signal into a compressed signal, for causing a computer to execute:

an initial sub-signal creation step of creating, from the original signal, sub-signals of shorter length than the original signal;

a created sub-signal selection step of, for each of the sub-signals which have been produced by the initial sub-signal creation step, pruning the created sub-signal candidates to those for which the amount of data is less than for the original signal;

a sub-signal re-creation step of determining upon a created sub-signal which is actually to be used, using the created sub-signal candidates which have been produced by the created sub-signal selection step;

a compression mapping determination step of determining, from each of the sub-signals which have been produced by the sub-signal re-creation step, a mapping for calculation of a compressed signal; and

a signal compression step of calculating a compressed signal which corresponds to each of the sub-signals which have been obtained by the sub-signal re-creation step, based upon the mapping which has been obtained by the compression mapping determination step.

17. A signal retrieval program for, at any location within a stored signal, which is an original signal which is registered in advance, calculating the distance from a reference signal, which is a signal which is taken as an object, and finding a location from the stored signal which is similar to the reference signal, for causing a computer to execute:

the steps which are comprised in the signal compression program as described in Claim 16;

a reference feature extraction step in which a feature is produced from the reference signal;

a stored feature extraction step in which a window upon which attention is focused is set within the stored signal, and in which a feature is produced from the stored signal within the window upon which attention is focused;

a reference feature compression step in which a reference feature which has been produced by the reference feature extraction step is compressed, based upon the mapping which has been produced by the compression mapping determination step;

a feature matching step in which the distance is calculated between a reference compressed signal which has been produced by the reference feature compression step and a stored compressed signal which has been produced from the signal compression step by newly using the feature sequence which has been produced by repeatedly performing the processing of the stored feature extraction step while shifting the window upon which attention is focused;

a signal detection decision step in which, by comparing together the distance which has been produced by the feature matching step and a search threshold, which is a threshold which corresponds to the distance, it is decided whether or not the reference signal is present at the location within the stored signal; and

a step of repeatedly executing the feature matching step and the signal detection decision step while shifting the window upon which attention is focused.

18. A signal retrieval program as described in Claim 17, further comprising:

a distance re-calculation step in which, for the location in the database signal at which it has been decided by the signal detection decision step that the query signal is present, the distance between the feature sequence which has been produced by the reference feature extraction step and the feature sequence which has been produced by the stored feature extraction step is calculated; and

a signal detection re-decision step in which, by comparing together the distance which has been produced by the distance re-calculation step and the search threshold, it is re-decided whether or not the query signal is present at the location of the database signal, and

wherein a step is performed in which the processing of the feature matching step, the signal detection decision step, the distance re-calculation step, and the signal

detection re-decision step is repeated while shifting the window upon which attention is focused, for some locations within the database signal, the distance from the query signal is calculated; and it is determined whether or not the query signal is present at the locations within the database signal.

19. A signal retrieval program as described in Claim 17, further comprising a skip width calculation step in which, based upon the distance which has been calculated by the feature matching step, a skip width for the window upon which attention is focused is calculated, and the window upon which attention is focused is shifted by the skip width, and

wherein a step is performed in which the processing of the feature matching step, the signal detection decision step, and the skip width calculation step is repeated while shifting the window upon which attention is focused, for some locations within the database signal, the distance from the query signal is calculated; and it is determined whether or not the query signal is present at the locations within the database signal.

20. A recording medium capable of being read by a computer, upon which is recorded a signal compression program which compresses an original signal which has been provided in advance to convert the original signal into a compressed signal, for causing a computer to execute:

an initial sub-signal creation step of creating, from the original signal, sub-signals of shorter length than the original signal;

a created sub-signal selection step of, for each of the sub-signals which have been produced by the initial sub-signal creation step, pruning the created sub-signal candidates to those for which the amount of data is less than for the original signal;

a sub-signal re-creation step of determining upon a created sub-signal which is actually to be used, using the created sub-signal candidates which have been produced by the created sub-signal selection step;

a compression mapping determination step of determining, from each of the sub-signals which have been produced by the sub-signal re-creation step, a mapping for calculation of a compressed signal; and

a signal compression step of calculating a compressed signal which corresponds to each of the sub-signals which have been obtained by the sub-signal re-creation step, based upon the mapping which has been obtained by the compression mapping determination step.

21. A recording medium capable of being read by a computer, upon which is recorded a signal retrieval program for, at any location within a stored signal, which is an original signal which is registered in advance, calculating the distance from a reference signal, which is a signal which is taken as an object, and finding a location from the stored signal which is similar to the reference signal, for causing a computer to execute:

the steps which are comprised in the signal compression program as described in Claim 20;

a reference feature extraction step in which a feature is produced from the reference signal;

a stored feature extraction step in which a window upon which attention is focused is set within the stored signal, and in which a feature is produced from the stored signal within the window upon which attention is focused;

a reference feature compression step in which a reference feature which has been produced by the reference feature extraction step is compressed, based upon a

mapping which has been produced by the compression mapping determination step;

a feature matching step in which the distance is calculated between a reference compressed signal which has been produced by the reference feature compression step and a stored compressed signal which has been produced from the signal compression step by newly using the feature sequence which has been produced by repeatedly performing the processing of the stored feature extraction step while shifting the window upon which attention is focused;

a signal detection decision step in which, by comparing together the distance which has been produced by the feature matching step and a search threshold, which is a threshold which corresponds to the distance, it is decided whether or not the reference signal is present at the location within the stored signal; and

a step of repeatedly executing the feature matching step and the signal detection decision step while shifting the window upon which attention is focused.

22. A recording medium capable of being read by a computer upon which is recorded the signal retrieval program as described in Claim 21, the signal retrieval program further comprising:

a distance re-calculation step in which, for the location in the database signal at which it has been decided by the signal detection decision step that the query signal is present, the distance between the feature sequence which has been produced by the reference feature extraction step and the feature sequence which has been produced by the stored feature extraction step is calculated; and

a signal detection re-decision step in which, by comparing together the distance which has been produced by the distance re-calculation step and the search threshold, it is re-decided whether or not the query signal is present at the location of the database

signal, and

wherein a step is performed in which the processing of the feature matching step, the signal detection decision step, the distance re-calculation step, and the signal detection re-decision step is repeated while shifting the window upon which attention is focused, for some locations within the database signal, the distance from the query signal is calculated; and it is determined whether or not the query signal is present at the locations within the database signal.

23. A recording medium capable of being read by a computer upon which is recorded the signal retrieval program as described in Claim 21, the signal retrieval program further comprising a skip width calculation step in which, based upon the distance which has been calculated by the feature matching step, a skip width for the window upon which attention is focused is calculated, and the window upon which attention is focused is shifted by the skip width, and

wherein a step is performed in which the processing of the feature matching step, the signal detection decision step, and the skip width calculation step is repeated while shifting the window upon which attention is focused, for some locations within the database signal, the distance from the query signal is calculated, and it is determined whether or not the query signal is present at the locations within the database signal.

24. A signal retrieval method which finds out portions from a database signal which has been registered in advance which are similar to a query signal which is taken as an object, comprising:

a query feature extraction step in which a feature is produced from the query signal;

a database feature extraction step in which a window upon which attention is focused is set within the database signal, and in which a feature is produced from the database signal within the window upon which attention is focused;

a database feature partitioning step in which a feature sequence which has been produced by repeatedly performing the database feature extraction step while shifting the window upon which attention is focused is partitioned;

a database feature pruning step in which a representative feature is extracted from the feature sequence which has been obtained after partitioning by the database feature partitioning step, and a representative feature sequence is produced which consists of a smaller number of features;

a feature region extraction step in which a region is produced in which a feature which is included in the partition which has been produced by the database feature partitioning step is present;

a feature matching step in which a distance is calculated between a feature sequence which has been produced by the query feature extraction step and a representative feature sequence which has been produced by the database feature pruning step;

a distance compensation step in which the distance which has been calculated by the feature matching step is compensated using the region which has been produced by the feature region extraction step; and

a signal detection decision step in which, by comparing together the distance which has been produced after compensation by the distance compensation step and a search threshold, which is a threshold which corresponds to the distance, it is decided whether or not the query signal is present at the location within the database signal, and

wherein the processing of the feature matching step through the signal detection

decision step is repeated while shifting the window upon which attention is focused, for some locations within the database signal, the distance from the query signal is calculated, and it is determined whether or not the query signal is present at the locations within the database signal.

25. A signal retrieval method as described in Claim 24, wherein, in the database feature pruning step, any single feature in the partition is taken as a representative feature.

26. A signal retrieval method as described in Claim 24, wherein, in the database feature pruning step, the centroid of the features in the partition is taken as a representative feature.

27. A signal retrieval method as described in Claim 24, wherein, in the database feature partitioning step, the feature sequence which has been produced by repeatedly performing the processing of the database feature extraction step while shifting the window upon which attention is focused is segmented equally into lengths which have been specified in advance.

28. A signal retrieval method as described in Claim 24, wherein, in the database feature partitioning step, the feature sequence which has been produced by repeatedly performing the processing of the database feature extraction step while shifting the window upon which attention is focused is segmented so that the region in which a feature is present which is produced by the feature region extraction step becomes smaller than a maximum region which has been specified in advance.

29. A signal retrieval method as described in Claim 24, further comprising:

a segment extraction step in which segments, which are sub-sequences, are extracted by segmenting a feature sequence which has been produced by repeatedly performing the database feature extraction step while shifting the window upon which attention is focused;

a compression mapping determination step in which, from each of the segments which have been obtained by the segment extraction step, a mapping is determined for calculation of a feature of less dimensions than the feature;

a database feature compression step in which a feature which corresponds to a segment which has been obtained by the segment extraction step and which is of less dimensions than the feature is calculated based upon the mapping which has been obtained by the compression mapping determination step; and

a query feature compression step in which a feature which corresponds to a feature which has been obtained by the query feature extraction step and which is of less dimensions than the feature is calculated based upon the mapping which has been obtained by the compression mapping determination step, and

wherein, in the database feature pruning step, a representative feature sequence is produced by taking the compressed feature sequence which has been produced by the database feature compression step as a new feature sequence, and, in the feature matching step, a matching is performed of the compressed feature which has been produced by the query feature compression step as a new feature, the processing of the feature matching step through the signal detection decision step is repeated while shifting the window upon which attention is focused, for some locations within the database signal, the distance from the query signal is calculated; and it is determined whether or not the query signal is present at the locations within the database signal.

30. A signal retrieval method as described in Claim 29, wherein the database feature compression step comprises:

a database feature mapping step in which a segment which has been obtained by the segment extraction step is mapped according to the mapping which has been obtained by the compression mapping determination step;

a database projection distance calculation step in which, for the compressed feature sequence which has been produced by the database feature mapping step, the distance from the feature sequence which has been produced by the database feature extraction step is calculated; and

a database compressed feature creation step in which a new compressed feature sequence is created from the compressed feature sequence which has been produced by the database feature mapping step and the projection distance which has been produced by the database projection distance calculation step, and wherein

the query feature compression step comprises:

a query feature mapping step in which the feature which has been obtained by the query feature extraction step is mapped according to the mapping which has been obtained by the compression mapping determination step;

a query projection distance calculation step in which, for the compressed feature which has been produced by the query feature mapping step, the distance from the feature which has been produced by the query feature extraction step is calculated; and

a query compression feature creation step in which a new compressed feature is created from the compressed feature which has been produced by the query feature mapping step and the projection distance which has been produced by the query projection distance calculation step.

31. A signal retrieval method as described in Claim 29, wherein the compression mapping determination step extracts a representative feature by a Karhunen-Loeve transform.

32. A signal retrieval method as described in Claim 24, further comprising:

a distance re-calculation step in which, for the location in the database signal at which it has been decided by the signal detection decision step that the query signal is present, the distance between the feature which has been produced by the query feature extraction step and the feature sequence which has been produced by the database feature extraction step is calculated; and

a signal detection re-decision step in which, by comparing together the distance which has been produced by the distance re-calculation step and the search threshold, it is again decided whether or not the query signal is present at the location of the database signal, and

wherein the processing of the feature matching step, the signal compensation step, the signal detection decision step, the distance re-calculation step, and the signal detection re-decision step is repeated while shifting the window upon which attention is focused, for some locations within the database signal, the distance from the query signal is calculated; and it is determined whether or not the query signal is present at the locations within the database signal.

33. A signal retrieval method as described in Claim 24, further comprising:

a database feature classification step in which the respective features which have been produced by repeatedly performing the database feature extraction step while

shifting the window upon which attention is focused are classified based upon a distance which has been defined in advance, and a representative feature of the classification is determined upon;

a selection threshold setting step in which a selection threshold for the distance which has been defined by the database feature classification step is calculated from a search threshold which has been defined in advance; and

a database feature selection step in which, among the classification which has been produced by the database feature classification step, a feature is selected which is included in the classification which contains a representative feature such that the distance from the feature which has been produced by the query feature extraction step satisfies a condition which is produced from the selection threshold which has been calculated by the selection threshold setting step.

34. A signal retrieval method as described in Claim 29, further comprising:

a database feature classification step in which the respective features which have been produced by repeatedly performing the database feature extraction step while shifting the window upon which attention is focused are classified based upon a distance which has been defined in advance, and a representative feature of the classification is determined upon;

a selection threshold setting step in which a selection threshold for the distance which has been defined by the database feature classification step is calculated from a search threshold which has been defined in advance; and

a database feature selection step in which, among the classification which has been produced by the database feature classification step, a feature is selected which is included in the classification which contains a representative feature such that the

distance from the feature which has been produced by the query feature extraction step satisfies a condition which is produced from the selection threshold which has been calculated by the selection threshold setting step.

35. A signal retrieval method as described in Claim 33, wherein the database feature classification step classifies the features based upon a vector quantization algorithm, using Euclid distance as a distance measure.

36. A signal retrieval method as described in Claim 24, wherein the feature matching step calculates the distance based upon Manhattan distance or Euclid distance.

37. A signal retrieval method as described in Claim 30, wherein the database projection distance calculation step calculates the distance based upon Manhattan distance or Euclid distance.

38. A signal retrieval method as described in Claim 32, wherein the distance re-calculation step calculates the distance based upon Manhattan distance or Euclid distance.

39. A signal retrieval method as described in Claim 24, wherein the query feature extraction step and the database feature extraction step classify the features by a method which is determined in advance, create a histogram which is a frequency distribution table for each classification, and output the histogram as a new feature.

40. A signal retrieval method as described in Claim 24, further comprising a skip width

calculation step in which, based upon the distance which has been calculated by the distance compensation step, a skip width for the window upon which attention is focused is calculated, and the window upon which attention is focused is shifted by the skip width, and

wherein the processing of the feature matching step, the distance compensation step, the signal detection decision step, and the skip width calculation step is repeated while shifting the window upon which attention is focused, for some locations within the database signal, the distance from the query signal is calculated, and it is determined whether or not the query signal is present at the locations within the database signal.

41. A signal retrieval method which finds out portions from a database signal which has been registered in advance which are similar to a query signal which is taken as an object, comprising:

a query feature extraction step in which a feature is produced from a query signal;

a database feature extraction step in which a window upon which attention is focused is set within the database signal, and in which a feature is produced from the database signal within the window upon which attention is focused;

a database feature classification step in which the respective features which have been produced by repeatedly performing the database feature extraction step while shifting the window upon which attention is focused are classified based upon a distance which has been defined in advance, and a representative feature of the classification is determined upon;

a selection threshold setting step in which a selection threshold for the distance which has been defined by the database feature classification step is calculated from a

search threshold which has been defined in advance;

a database feature selection step in which, among the classification which has been produced by the database feature classification step, a feature is selected which is included in the classification which contains a representative feature such that the distance from the feature which has been produced by the query feature extraction step satisfies a condition which is produced from the selection threshold which has been calculated by the selection threshold setting step;

a segment extraction step in which segments, which are sub-sequences, are extracted by segmenting a feature sequence which has been produced by repeatedly performing the database feature extraction step while shifting the window upon which attention is focused;

a compression mapping determination step in which, from each of the segments which have been obtained by the segment extraction step, a mapping is determined for calculation of a feature of less dimensions than the feature;

a database feature compression step in which a feature which corresponds to a segment which has been obtained by the segment extraction step and which is of less dimensions than the feature is calculated based upon the mapping which has been obtained by the compression mapping determination step;

a query feature compression step in which a feature which corresponds to a feature which has been obtained by the query feature extraction step and which is of less dimensions than the feature is calculated based upon the mapping which has been obtained by the compression mapping determination step;

a feature matching step in which a distance is calculated between a compressed feature sequence which has been produced by the database feature compression step and a compressed feature which has been produced by the query feature extraction step; and

a signal detection decision step in which, by comparing together the distance which has been calculated by the feature matching step and a search threshold, which is a threshold which corresponds to the distance, it is decided whether or not the query signal is present at the location within the database signal, and

wherein the processing of the feature matching step and the signal detection decision step is repeated while shifting the window upon which attention is focused, for some locations within the database signal, the distance from the query signal is calculated; and it is determined whether or not the query signal is present at the locations within the database signal.

42. A signal retrieval method as described in Claim 41, further comprising:

a distance re-calculation step in which, for the location in the database signal at which it has been decided by the signal detection decision step that the query signal is present, the distance between the feature which has been produced by the query feature extraction step and the feature sequence which has been produced by the database feature extraction step is calculated; and

a signal detection re-decision step in which, by comparing together the distance which has been produced by the distance re-calculation step and the search threshold, it is again decided whether or not the query signal is present at the location of the database signal, and

wherein the processing of the feature matching step, the signal detection decision step, the distance re-calculation step, and the signal detection re-decision step is repeated while shifting the window upon which attention is focused, for some locations within the database signal, the distance from the query signal is calculated; and it is determined whether or not the query signal is present at the locations within the database

signal.

43. A signal retrieval method as described in Claim 41, further comprising a skip width calculation step in which, based upon the distance which has been calculated by the feature matching step, a skip width for the window upon which attention is focused is calculated, and the window upon which attention is focused is shifted by the skip width, and

wherein the processing of the feature matching step, the signal detection decision step, and the skip width calculation step is repeated while shifting the window upon which attention is focused, for some locations within the database signal, the distance from the query signal is calculated; and it is determined whether or not the query signal is present at the locations within the database signal.

44. A signal retrieval device which finds out portions from a database signal which has been registered in advance which are similar to a query signal which is taken as an object, comprising:

a query feature extraction section which produces a feature from the query signal;

a database feature extraction section which sets a window upon which attention is focused is set within the database signal, and which produces a feature from the database signal within the window upon which attention is focused;

a database feature partitioning section which partitions a feature sequence which has been produced by repeatedly performing the processing of the database feature extraction section while shifting the window upon which attention is focused;

a database feature pruning section which extracts a representative feature from

the feature sequence which has been obtained after partitioning by the database feature partitioning section, and which produces a representative feature sequence which consists of a smaller number of features;

a feature region extraction section which produces a region in which a feature which is included in the partition which has been produced by the database feature partitioning section is present;

a feature matching section which calculates a distance between a feature sequence which has been produced by the query feature extraction section and a representative feature sequence which has been produced by the database feature pruning section;

a distance compensation section in which the distance which has been calculated by the feature matching section is compensated using the region which has been produced by the feature region extraction section; and

a signal detection decision section in which, by comparing together the distance which has been produced after compensation by the distance compensation section and a search threshold, which is a threshold which corresponds to the distance, it is decided whether or not the query signal is present at the location within the database signal, and

wherein the processing of the feature matching section through the signal detection decision section is repeated while shifting the window upon which attention is focused; for some locations within the database signal, the distance from the query signal is calculated; and it is determined whether or not the query signal is present at the locations within the database signal.

45. A signal retrieval device as described in Claim 44, further comprising:

a segment extraction section which extracts segments, which are sub-sequences,

by segmenting a feature sequence which has been produced by repeatedly performing the processing of the database feature extraction section while shifting the window upon which attention is focused;

a compression mapping determination section which, from each of the segments which have been obtained by the segment extraction section, determines a mapping for calculation of a feature of less dimensions than the feature;

a database feature compression section which calculates a feature which corresponds to a segment which has been obtained by the segment extraction section and which is of less dimensions than the feature based upon a mapping which has been obtained by the compression mapping determination section; and

a query feature compression section which calculates a feature which corresponds to a feature which has been obtained by the query feature extraction section and which is of less dimensions than the feature based upon a mapping which has been obtained by the compression mapping determination section, and

wherein, by the database feature pruning section, a representative feature sequence is produced by using a compressed feature sequence which has been produced by the database feature compression section is produced as a new feature sequence; by the feature matching section, matching is performed using a compressed feature which has been produced by the query feature compression section as a new feature; and further: the processing of the feature matching section through the signal detection decision section is repeated while shifting the window upon which attention is focused, for some locations within the database signal, the distance from the query signal is calculated; and it is determined whether or not the query signal is present at the locations within the database signal.

46. A signal retrieval device as described in Claim 44, further comprising:

a distance re-calculation section which, for the location in the database signal at which it has been decided by the signal detection decision section that the query signal is present, calculates the distance between the feature sequence which has been produced by the query feature extraction section and the feature sequence which has been produced by the database feature extraction section; and

a signal detection re-decision section which, by comparing together the distance which has been produced by the distance re-calculation section and the search threshold, again decides whether or not the query signal is present at the location of the database signal, and

wherein the processing of the feature matching section, the distance compensation section, the signal detection decision section, the distance re-calculation section, and the signal detection re-decision section is repeated while shifting the window upon which attention is focused, for some locations within the database signal, the distance from the query signal is calculated; and it is determined whether or not the query signal is present at the locations within the database signal.

47. A signal retrieval device as described in Claim 44, further comprising:

a database feature classification section which classifies the respective features which have been produced by repeatedly performing the processing of the database feature extraction section while shifting the window upon which attention is focused based upon a distance which has been determined in advance, and determines upon a representative feature of the classification;

a selection threshold setting section which calculates a selection threshold for the distance which has been defined by the database feature classification section from a

search threshold which has been defined in advance; and

a database feature selection section which, for the classification which has been produced by the database feature classification section, selects a feature which is included in the classification which contains a representative feature such that the distance from the feature which has been produced by the query feature extraction section satisfies a condition which is produced from the selection threshold which has been calculated by the selection threshold setting section.

48. A signal retrieval device as described in Claim 44, further comprising a skip width calculation section which, based upon the distance which has been calculated by the distance compensation section, calculates a skip width for the window upon which attention is focused, and shifts the window upon which attention is focused by the skip width, and

wherein the processing of the feature matching section, the distance compensation section, the signal detection decision section, and the skip width calculation section is repeated while shifting the window upon which attention is focused, for some locations within the database signal, the distance from the query signal is calculated; and it is determined whether or not the query signal is present at the locations within the database signal.

49. A signal retrieval device which finds out portions from a database signal which has been registered in advance which are similar to a query signal which is taken as an object, comprising:

a query feature extraction section which produces a feature from a query signal;

a database feature extraction section which sets a window upon which attention

is focused within the database signal, and which produces a feature from the database signal within the window upon which attention is focused;

a database feature classification section which classifies the respective features which have been produced by repeatedly performing the processing of the database feature extraction section while shifting the window upon which attention is focused based upon a distance which has been determined in advance, and determines upon a representative feature of the classification;

a selection threshold setting section which calculates a selection threshold for the distance which has been defined by the database feature classification section from a search threshold which has been defined in advance;

a database feature selection section which, among the classification which has been produced by the database feature classification section, selects a feature which is included in the classification which contains a representative feature such that the distance from the feature which has been produced by the query feature extraction section satisfies a condition which is produced from the selection threshold which has been calculated by the selection threshold setting section;

a segment extraction section which extracts segments, which are sub-sequences, by segmenting a feature sequence which has been produced by repeatedly performing the processing of the database feature extraction section while shifting the window upon which attention is focused;

a compression mapping determination section which, from each of the segments which have been obtained by the segment extraction section, determines a mapping for calculation of a feature of less dimensions than the feature;

a database feature compression section which calculates a feature which corresponds to a segment which has been obtained by the segment extraction section and

which is of less dimensions than the feature based upon a mapping which has been obtained by the compression mapping determination section;

a query feature compression section which calculates a feature which corresponds to a feature which has been obtained by the query feature extraction section and which is of less dimensions than the feature based upon the mapping which has been obtained by the compression mapping determination section;

a feature matching section which calculates a distance between a compressed feature sequence which has been produced by the database feature compression section and a compressed feature which has been produced by the query feature extraction section; and

a signal detection decision section which, by comparing together the distance which has been calculated by the feature matching section and a search threshold, which is a threshold which corresponds to the distance, decides whether or not the query signal is present at the location within the database signal, and

wherein the processing of the feature matching section through the signal detection decision section is repeated while shifting the window upon which attention is focused, for some locations within the database signal, the distance from the query signal is calculated; and it is determined whether or not the query signal is present at the locations within the database signal.

50. A signal retrieval device as described in Claim 49, further comprising:

a distance re-calculation section which, for the location in the database signal at which it has been decided by the signal detection decision section that the query signal is present, calculates the distance between the feature sequence which has been produced by the query feature extraction section and the feature sequence which has been produced

by the database feature extraction section; and

a signal detection re-decision section which, by comparing together the distance which has been produced by the distance re-calculation section and the search threshold, again decides whether or not the query signal is present at the location of the database signal and

wherein the processing of the feature matching section, the signal detection decision section, the distance re-calculation section, and the signal detection re-decision section is repeated while shifting the window upon which attention is focused, for some locations within the database signal, the distance from the query signal is calculated; and it is determined whether or not the query signal is present at the locations within the database signal.

51. A signal retrieval device as described in Claim 49, further comprising a skip width calculation section which, based upon the distance which has been calculated by the feature matching section, calculates a skip width for the window upon which attention is focused, and shifts the window upon which attention is focused by the skip width and

wherein the processing of the feature matching section, the signal detection decision section, and the skip width calculation section is repeated while shifting the window upon which attention is focused; for some locations within the database signal, the distance from the query signal is calculated; and it is determined whether or not the query signal is present at the locations within the database signal.

52. A program for execution by a computer of a signal retrieval device which finds out portions from a database signal which has been registered in advance which are similar to a query signal which is taken as an object, comprising:

a query feature extraction step in which a feature is produced from the query signal;

a database feature extraction step in which a window upon which attention is focused is set within the database signal, and in which a feature is produced from the database signal within the window upon which attention is focused;

a database feature partitioning step in which a feature sequence which has been produced by repeatedly performing the database feature extraction step while shifting the window upon which attention is focused is partitioned;

a database feature pruning step in which a representative feature is extracted from the feature sequence which has been obtained after partitioning by the database feature partitioning step, and a representative feature sequence is produced which consists of a smaller number of features;

a feature region extraction step in which a region is produced in which a feature which is included in the partition which has been produced by the database feature partitioning step is present;

a feature matching step in which a distance is calculated between a feature which has been produced by the query feature extraction step and a representative feature sequence which has been produced by the database feature pruning step;

a distance compensation step in which the distance which has been calculated by the feature matching step is compensated using the region which has been produced by the feature region extraction step;

a signal detection decision step in which, by comparing together the distance which has been produced after compensation by the distance compensation step and a search threshold, which is a threshold which corresponds to the distance, it is decided whether or not the query signal is present at the location within the database signal; and

a step of: repeating the processing of the feature matching step through the signal detection decision step while shifting the window upon which attention is focused, for some locations within the database signal, calculating the distance from the query signal; and determining whether or not the query signal is present at the locations within the database signal.

53. A program as described in Claim 52, further comprising:

a segment extraction step in which segments, which are sub-sequences, are extracted by segmenting a feature sequence which has been produced by repeatedly performing the database feature extraction step while shifting the window upon which attention is focused;

a compression mapping determination step in which, from each of the segments which have been obtained by the segment extraction step, a mapping is determined for calculation of a feature of less dimensions than the feature;

a database feature compression step in which a feature which corresponds to a segment which has been obtained by the segment extraction step and which is of less dimensions than the feature is calculated based upon the mapping which has been obtained by the compression mapping determination step;

a query feature compression step in which a feature which corresponds to a feature which has been obtained by the query feature extraction step and which is of less dimensions than the feature is calculated based upon the mapping which has been obtained by the compression mapping determination step; and

a step in which, in the database feature pruning step, a representative feature sequence is produced by taking the compressed feature sequence which has been produced by the database feature compression step as a new feature sequence, and, in the

feature matching step, a matching is performed of the compressed feature which has been produced by the query feature compression step as a new feature; the processing of the feature matching step through the signal detection decision step is repeated while shifting the window upon which attention is focused; for some locations within the database signal, the distance from the query signal is calculated; and it is determined whether or not the query signal is present at the locations within the database signal.

54. A program as described in Claim 52, further comprising:

a distance re-calculation step in which, for the location in the database signal at which it has been decided by the signal detection decision step that the query signal is present, the distance between the feature which has been produced by the query feature extraction step and the feature sequence which has been produced by the database feature extraction step is calculated;

a signal detection re-decision step in which, by comparing together the distance which has been produced by the distance re-calculation step and the search threshold, it is again decided whether or not the query signal is present at the location of the database signal; and

a step in which: the processing of the feature matching step, the distance compensation step, the signal detection decision step, the distance re-calculation step, and the signal detection re-decision step is repeated while shifting the window upon which attention is focused; for some locations within the database signal, the distance from the query signal is calculated; and it is determined whether or not the query signal is present at the locations within the database signal.

55. A program as described in Claim 52, further comprising:

a database feature classification step in which the respective features which have been produced by repeatedly performing the database feature extraction step while shifting the window upon which attention is focused are classified based upon a distance which has been determined in advance, and a representative feature of the classification is determined upon;

a selection threshold setting step in which a selection threshold for the distance which has been defined by the database feature classification step is calculated from a search threshold which has been defined in advance; and

a database feature selection step in which, among the classification which has been produced by the database feature classification step, a feature is selected which is included in the classification which contains a representative feature such that the distance from the feature which has been produced by the query feature extraction step satisfies a condition which is produced from the selection threshold which has been calculated by the selection threshold setting step.

56. A program as described in Claim 52, further comprising:

a skip width calculation step in which, based upon the distance which has been calculated by the distance compensation step, a skip width for the window upon which attention is focused is calculated, and the window upon which attention is focused is shifted by the skip width; and

a step in which: the processing of the feature matching step, the distance compensation step, the signal detection decision step, and the skip width calculation step is repeated while shifting the window upon which attention is focused; for some locations within the database signal, the distance from the query signal is calculated; and it is determined whether or not the query signal is present at the locations within the

database signal.

57. A program for execution by a computer of a signal retrieval device which finds out portions from a database signal which has been registered in advance which are similar to a query signal which is taken as an object, comprising:

a query feature extraction step in which a feature is produced from the query signal;

a database feature extraction step in which a window upon which attention is focused is set within the database signal, and in which a feature is produced from the database signal within the window upon which attention is focused;

a database feature classification step in which the respective features which have been produced by repeatedly performing the database feature extraction step while shifting the window upon which attention is focused are classified based upon a distance which has been determined in advance, and a representative feature of the classification is determined upon;

a selection threshold setting step in which a selection threshold for the distance which has been defined by the database feature classification step is calculated from a search threshold which has been defined in advance;

a database feature selection step in which, among the classification which has been produced by the database feature classification step, a feature is selected which is included in the classification which contains a representative feature such that the distance from the feature which has been produced by the query feature extraction step satisfies a condition which is produced from the selection threshold which has been calculated by the selection threshold setting step;

a segment extraction step in which segments, which are sub-sequences, are

extracted by segmenting a feature sequence which has been produced by repeatedly performing the database feature extraction step while shifting the window upon which attention is focused;

a compression mapping determination step in which, from each of the segments which have been obtained by the segment extraction step, a mapping is determined for calculation of a feature of less dimensions than the feature;

a database feature compression step in which a feature which corresponds to a segment which has been obtained by the segment extraction step and which is of less dimensions than the feature is calculated based upon the mapping which has been obtained by the compression mapping determination step;

a query feature compression step in which a feature which corresponds to a feature which has been obtained by the query feature extraction step and which is of less dimensions than the feature is calculated based upon the mapping which has been obtained by the compression mapping determination step;

a feature matching step in which a distance is calculated between a compressed feature sequence which has been produced by the database feature compression step and a compressed feature which has been produced by the query feature extraction step;

a signal detection decision step in which, by comparing together the distance which has been calculated by the feature matching step and a search threshold, which is a threshold which corresponds to the distance, it is decided whether or not the query signal is present at the location within the database signal; and

a step in which: the processing of the feature matching step and the signal detection decision step is repeated while shifting the window upon which attention is focused; for some locations within the database signal, the distance from the query signal is calculated; and it is determined whether or not the query signal is present at the

locations within the database signal.

58. A program as described in Claim 57, further comprising:

a distance re-calculation step in which, for the location in the database signal at which it has been decided by the signal detection decision step that the query signal is present, the distance between the feature which has been produced by the query feature extraction step and the feature sequence which has been produced by the database feature extraction step is calculated;

a signal detection re-decision step in which, by comparing together the distance which has been produced by the distance re-calculation step and the search threshold, it is again decided whether or not the query signal is present at the location of the database signal; and

a step in which: the processing of the feature matching step, the signal detection decision step, the distance re-calculation step, and the signal detection re-decision step is repeated while shifting the window upon which attention is focused; for some locations within the database signal, the distance from the query signal is calculated; and it is determined whether or not the query signal is present at the locations within the database signal.

59. A program as described in Claim 57, further comprising:

a skip width calculation step in which, based upon the distance which has been calculated by the feature matching step, a skip width for the window upon which attention is focused is calculated, and the window upon which attention is focused is shifted by the skip width; and

a step in which: the processing of the feature matching step, the signal detection

decision step, and the skip width calculation step is repeated while shifting the window upon which attention is focused; for some locations within the database signal, the distance from the query signal is calculated; and it is determined whether or not the query signal is present at the locations within the database signal.

60. A recording medium capable of being read by a computer, upon which is recorded a program for causing a computer of a signal retrieval device which finds out portions from a database signal which has been registered in advance which are similar to a query signal which is taken as an object to execute:

a query feature extraction step in which a feature is produced from the query signal;

a database feature extraction step in which a window upon which attention is focused is set within the database signal, and in which a feature is produced from the database signal within the window upon which attention is focused;

a database feature partitioning step in which a feature sequence which has been produced by repeatedly performing the database feature extraction step while shifting the window upon which attention is focused is partitioned;

a database feature pruning step in which a representative feature is extracted from the feature sequence which has been obtained after partitioning by the database feature partitioning step, and a representative feature sequence is produced which consists of a smaller number of features;

a feature region extraction step in which a region is produced in which a feature which is included in the partition which has been produced by the database feature partitioning step is present;

a feature matching step in which a distance is calculated between a feature

which has been produced by the query feature extraction step and a representative feature sequence which has been produced by the database feature pruning step;

a distance compensation step in which the distance which has been calculated by the feature matching step is compensated using the region which has been produced by the feature region extraction step;

a signal detection decision step in which, by comparing together the distance which has been produced after compensation by the distance compensation step and a search threshold, which is a threshold which corresponds to the distance, it is decided whether or not the query signal is present at the location within the database signal; and

a step of: repeating the processing of the feature matching step through the signal detection decision step while shifting the window upon which attention is focused; for some locations within the database signal, calculating the distance from the query signal; and determining whether or not the query signal is present at the locations within the database signal.

61. A recording medium capable of being read by a computer as described in Claim 60, further comprising:

a segment extraction step in which segments, which are sub-sequences, are extracted by segmenting a feature sequence which has been produced by repeatedly performing the database feature extraction step while shifting the window upon which attention is focused;

a compression mapping determination step in which, from each of the segments which haves been obtained by the segment extraction step, a mapping is determined for calculation of a feature of less dimensions than the feature;

a database feature compression step in which a feature which corresponds to a

segment which has been obtained by the segment extraction step and which is of less dimensions than the feature is calculated based upon the mapping which has been obtained by the compression mapping determination step;

a query feature compression step in which a feature which corresponds to a feature which has been obtained by the query feature extraction step and which is of less dimensions than the feature is calculated based upon the mapping which has been obtained by the compression mapping determination step; and

a step in which, in the database feature pruning step, a representative feature sequence is produced by taking the compressed feature sequence which has been produced by the database feature compression step as a new feature sequence, and, in the feature matching step, a matching is performed of the compressed feature which has been produced by the query feature compression step as a new feature; the processing of the feature matching step through the signal detection decision step is repeated while shifting the window upon which attention is focused; for some locations within the database signal, the distance from the query signal is calculated; and it is determined whether or not the query signal is present at the locations within the database signal.

62. A recording medium capable of being read by a computer as described in Claim 60, further comprising:

a distance re-calculation step in which, for the location in the database signal at which it has been decided by the signal detection decision step that the query signal is present, the distance between the feature which has been produced by the query feature extraction step and the feature sequence which has been produced by the database feature extraction step is calculated;

a signal detection re-decision step in which, by comparing together the distance

which has been produced by the distance re-calculation step and the search threshold, it is again decided whether or not the query signal is present at the location of the database signal; and

a step in which: the processing of the feature matching step, the distance compensation step, the signal detection decision step, the distance re-calculation step, and the signal detection re-decision step is repeated while shifting the window upon which attention is focused; for some locations within the database signal, the distance from the query signal is calculated; and it is determined whether or not the query signal is present at the locations within the database signal.

63. A recording medium capable of being read by a computer as described in Claim 60, further comprising:

a database feature classification step in which the respective features which have been produced by repeatedly performing the database feature extraction step while shifting the window upon which attention is focused are classified based upon a distance which has been determined in advance, and a representative feature of the classification is determined upon;

a selection threshold setting step in which a selection threshold for the distance which has been defined by the database feature classification step is calculated from a search threshold which has been defined in advance; and

a database feature selection step in which, among the classification which has been produced by the database feature classification step, a feature is selected which is included in the classification which contains a representative feature such that the distance from the feature which has been produced by the query feature extraction step satisfies a condition which is produced from the selection threshold which has been

calculated by the selection threshold setting step.

64. A recording medium capable of being read by a computer as described in Claim 60, further comprising:

a skip width calculation step in which, based upon the distance which has been calculated by the distance compensation step, a skip width for the window upon which attention is focused is calculated, and the window upon which attention is focused is shifted by the skip width; and

a step in which: the processing of the feature matching step, the distance compensation step, the signal detection decision step, and the skip width calculation step is repeated while shifting the window upon which attention is focused; for some locations within the database signal, the distance from the query signal is calculated; and it is determined whether or not the query signal is present at the locations within the database signal.

65. A recording medium capable of being read by a computer, upon which is recorded a program for causing a computer of a signal retrieval device which finds out portions from a database signal which has been registered in advance which are similar to a query signal which is taken as an object to execute:

a query feature extraction step in which a feature is produced from the query signal;

a database feature extraction step in which a window upon which attention is focused is set within the database signal, and in which a feature is produced from the database signal within the window upon which attention is focused;

a database feature classification step in which the respective features which have

been produced by repeatedly performing the database feature extraction step while shifting the window upon which attention is focused are classified based upon a distance which has been determined in advance, and a representative feature of the classification is determined upon;

a selection threshold setting step in which a selection threshold for the distance which has been defined by the database feature classification step is calculated from a search threshold which has been defined in advance;

a database feature selection step in which, among the classification which has been produced by the database feature classification step, a feature is selected which is included in the classification which contains a representative feature such that the distance from the feature which has been produced by the query feature extraction step satisfies a condition which is produced from the selection threshold which has been calculated by the selection threshold setting step;

a segment extraction step in which segments, which are sub-sequences, are extracted by segmenting a feature sequence which has been produced by repeatedly performing the database feature extraction step while shifting the window upon which attention is focused;

a compression mapping determination step in which, from each of the segments which have been obtained by the segment extraction step, a mapping is determined for calculation of a feature of less dimensions than the feature;

a database feature compression step in which a feature which corresponds to the segment which has been obtained by the segment extraction step and which is of less dimensions than the feature is calculated based upon the mapping which has been obtained by the compression mapping determination step;

a query feature compression step in which a feature which corresponds to a

feature which has been obtained by the query feature extraction step and which is of less dimensions than the feature is calculated based upon the mapping which has been obtained by the compression mapping determination step;

a feature matching step in which a distance is calculated between a compressed feature sequence which has been produced by the database feature compression step and a compressed feature which has been produced by the query feature extraction step;

a signal detection decision step in which, by comparing together the distance which has been calculated by the feature matching step and a search threshold, which is a threshold which corresponds to the distance, it is decided whether or not the query signal is present at the location within the database signal; and

a step in which: the processing of the feature matching step and the signal detection decision step is repeated while shifting the window upon which attention is focused; for some locations within the database signal, the distance from the query signal is calculated; and it is determined whether or not the query signal is present at the locations within the database signal.

66. A recording medium capable of being read by a computer as described in Claim 65, further comprising:

a distance re-calculation step in which, for the location in the database signal at which it has been decided by the signal detection decision step that the query signal is present, the distance between the feature which has been produced by the query feature extraction step and the feature sequence which has been produced by the database feature extraction step is calculated;

a signal detection re-decision step in which, by comparing together the distance which has been produced by the distance re-calculation step and the search threshold, it

is again decided whether or not the query signal is present at the location of the database signal; and

a step in which: the processing of the feature matching step, the signal detection decision step, the distance re-calculation step, and the signal detection re-decision step is repeated while shifting the window upon which attention is focused; for some locations within the database signal, the distance from the query signal is calculated; and it is determined whether or not the query signal is present at the locations within the database signal.

67. A recording medium capable of being read by a computer as described in Claim 65, further comprising:

a skip width calculation step in which, based upon the distance which has been calculated by the feature matching step, a skip width for the window upon which attention is focused is calculated, and the window upon which attention is focused is shifted by the skip width; and

a step in which: the processing of the feature matching step, the signal detection decision step, and the skip width calculation step is repeated while shifting the window upon which attention is focused; for some locations within the database signal, the distance from the query signal is calculated; and it is determined whether or not the query signal is present at the locations within the database signal.